



Universal Temperature Sensors

QAL36..

- Universal sensor for indirect acquisition of the medium temperature in boilers and heat exchangers
- The QAL36.. and this Data Sheet are intended for use by OEMs which integrate the temperature sensors in their products

Use

The QAL36.. is used in connection with Boiler Management Units (BMUs) and has a sensing element NTC 10 kΩ for control of the boiler or d.h.w. temperature in gas-fired heating appliances. Suitable for use with all BMUs type LMU... that are capable of handling resistance values from such sensors.

Type summary

Type reference	Sensing element	Measurement range	Tolerance	Time constant *	Type of cable	Cable length	Weight	Packing size/pcs
QAL36.225	NTC 10 k Ω at 25 °C	-30...125 °C	± 0.5 K at 25 °C ± 1.25 K at 90 °C	10 s with pocket 8 s as strap-on sensor	PE	120 mm	4 g	500

* τ_{63} in water at 0.4 m/s

Ordering

When ordering, please give type reference according to "Type summary":
QAL36.225

Mechanical design

The standard version of the universal temperature sensor QAL36.. consists of brass sleeve (5 mm diameter, 20 mm long), sensing element and connecting cable with fer- rules or Molex plug at the end. The sensing element is embedded in the sleeve to which the connecting cable is attached. The sensor is not suited for direct immersion in liquid media (without using a protection pocket).

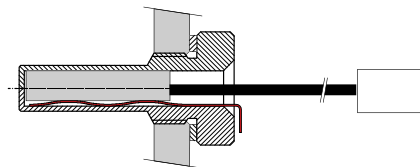
Accessories

Accessories supplied by Siemens:	AQL21.30 AQL21.42 AQL21.60	Holding spring for holes with a depth of 30 mm Holding spring for holes with a depth of 42 mm Holding spring for holes with a depth of 60 mm
Recommended accessories:	PLT1.5S-M30 (1000 pcs) PRT1.5S-M30 (1000 pcs) KU-CR-125	Cable tie Supplier: Panduit Cable tie (reusable) Supplier: Panduit Heat conducting wax Supplier: Kunze Folien GmbH

Mounting and installation

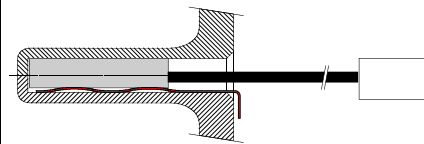
- As an immersion sensor Secure the sensor in the respective hole or protection pocket with the help of a holding spring AQL21... The hole or protection pocket must have an inside diameter of 5.2 mm.
- As a strap-on sensor Mount the sensor on the pipe with the help of a cable tie. Thermal coupling to the pipe can be improved by applying heat conducting wax prior to mounting.

Mounting in a pocket



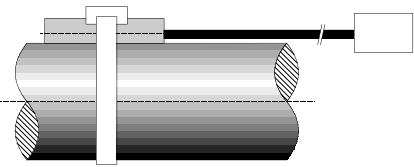
With holding spring

Mounting in a hole



With holding spring

Mounting on a pipe



With cable tie

Technical data

For general sensor data, also refer to "Type summary"

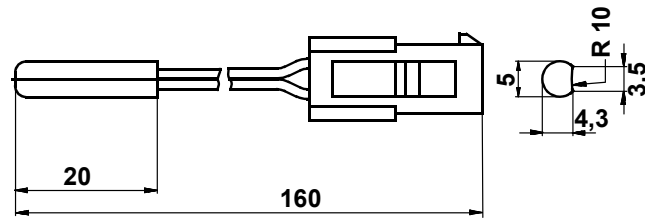
Perm. ambient temperature	
Operation	-30...100 °C (plug)
Transport and storage	-25...70 °C
Perm. ambient humidity	< 95 % r.h.

Norms and standards

Climatic and mechanical requirements	To IEC 721-3
EU conformity (CE)	CE1T1806xx *)
Product safety	
Safety class	III to EN 60 730
Insulation resistance	>10 MΩ
Electrical strength	>500 V (to the sleeve)
Electrical connections	Interchangeable

*) The documents can be downloaded from <http://siemens.com/bt/download>.

Dimensions



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Building Technologies Division
International Headquarters
Gubelstrasse 22
6301 Zug
Switzerland
Tel. +41 58-724 24 24
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